State Of California

The Resources Agency of California

Memorandum

Date: May 8, 2008
Telephone: (916) 653-1639

File: 08-AFC-1

To: Commissioner Jeffrey D. Byron, Presiding Member
Commissioner Arthur H. Rosenfeld, Associate Member

From: California Energy Commission -
1516 Ninth Street
Sacramento, CA 95814-5512

Christopher Meyer
Siting Project Manager

Subject: **AVENAL ENERGY (08-AFC-1)**
ISSUES IDENTIFICATION REPORT

Attached is staff's Issues Identification Report for the Avenal Energy project (08-AFC-1). This report serves as a preliminary scoping document that identifies the issues that Energy Commission staff believes will require careful attention and consideration. Energy Commission staff will present the issues report at the Informational Hearing and Site Visit to be held on May 20, 2008.

cc: Docket (08-AFC-1)
Proof of Service List

Attachment

AVENAL ENERGY

(08-AFC-1)

May 8, 2008

ISSUES IDENTIFICATION REPORT

CALIFORNIA ENERGY COMMISSION

Energy Facilities Siting Division

ISSUES IDENTIFICATION REPORT
AVENAL ENERGY

(08-AFC-1)

Table of Contents

ISSUES IDENTIFICATION REPORT

California Energy Commission Staff

This report has been prepared by the California Energy Commission staff to inform the Committee and all interested parties of the potential issues that have been identified in the case thus far. These issues have been identified as a result of our discussions with federal, state, and local agencies, and our review of Avenal Power Center, LLC's (Avenal Power) Avenal Energy Application for Certification (AFC), Docket Number 08-AFC-1. The Issues Identification Report contains a project description, summary of potentially significant environmental and engineering issues, and a discussion of the proposed project schedule. The staff will address the status of issues and progress towards their resolution in periodic status reports to the Committee.

PROJECT DESCRIPTION

Avenal Energy would be a 600 megawatt (MW) merchant power plant in the City of Avenal in Kings County, providing electrical reliability for local and Central San Joaquin Valley loads. The proposed project site is located in the agricultural region of the southwestern San Joaquin Valley. The project would be built on 25 acres of a 148-acre site just south of the Fresno County line, and about two miles east of Interstate 5. Although the proposed project is within City of Avenal town limits in an area zoned for industrial use, it is located approximately 6 miles from the city's residential and commercial districts. Current land use at the project site is irrigated agriculture, as is the surrounding land use.

Avenal Energy would be a combined-cycle generating plant consisting of two natural gas-fired General Electric 7FA gas turbines with heat recovery steam generators (HRSG) and one General Electric steam turbine. Natural gas would be provided via a 2.5-mile, 20-inch underground pipeline interconnection to the Pacific Gas and Electric (PG&E) natural gas pipeline transmission system at the Kettleman compressor station. The plant would use a dry cooling process to minimize water consumption. The City of Avenal would provide raw water for industrial uses to the proposed project from the city's turnout on the San Luis Canal. Groundwater from three local wells would provide a back-up water source to the project via two separate pipelines, totaling less than 1.4 miles. The proposed project would recycle water to the maximum extent possible through the use of a zero liquid discharge system which would eliminate waste water discharge. The proposed project would be connected to the PG&E transmission grid via a 6.4-mile single-circuit 230 kV transmission line, traversing agricultural land to the PG&E Gates substation in Fresno County. Although the electrical transmission line and natural gas pipeline interconnection points are respectively only 4.5 miles and 1.3 miles from the proposed project site in a straight line, the proposed routes for these linear facilities are longer to utilize existing utility corridors and avoid and/or minimize potential environmental impacts.

If approved, Avenal Power plans to begin construction in April of 2010, with commercial operation beginning June 1, 2012. Total capital investment is estimated to be $530 million. The construction work force would average 320 people over a 27-month period. Avenal Energy would employ 25 people when complete.

POTENTIAL MAJOR ISSUES

This portion of the report contains a discussion of the potential issues the Energy Commission staff has identified to date. The Committee should be aware that this report might not include all of the significant issues that may arise during the case. Discovery is not yet complete, and other parties and the public have not had an opportunity to identify their concerns. The identification of the potential issues contained in this report is based on comments of other government agencies and on our judgment of whether any of the following circumstances will occur:

1. Potential significant impacts that may be difficult to mitigate;
2. Potential areas of noncompliance with applicable laws, ordinances, regulations or standards (LORS);
3. Areas of conflict or potential conflict between the parties; or
4. Areas where resolution may be difficult or may affect the schedule.

The following table lists all the subject areas evaluated and notes the Air Quality and Transmission System Engineering areas where potentially significant issues have been identified. Even though an area is identified as having no potential issues, it does not mean that an issue will not arise related to the subject area.

Major Issue	DRs	Subject Area	Major Issue	DRs	Subject Area
Yes	Yes	Air Quality	No	No	Project Overview
No	Yes	Biological Resources	No	No	Public Health
No	Yes	Cultural Resources	No	Yes	Socioeconomics
No	No	Efficiency and Reliability	No	Yes	Soils & Water Resources
No	No	Facility Design	No	No	Traffic and Transportation
No	No	Geological Resources	No	No	Transmission Line Safety
No	Yes	Hazardous Materials Management	Yes	Yes	Transmission System Engineering
No	Yes	Worker Safety and Fire Protection	No	No	Visual Resources
No	Yes	Land Use	No	No	Waste Management
No	No	Noise and Vibration	No	No	Alternatives
No	No	Paleontological Resources			

This report does not limit the scope of staff's analysis throughout this proceeding, but it acts to aid in the analysis of the potentially significant issues that the Avenal Power proposal poses. The following discussion summarizes the potential issues, identifies the parties needed to resolve the issues, and where applicable, suggests a process for achieving resolution. At this time, staff does not see these potential issues as unresolvable.

AIR QUALITY

Staff reviewed the application for Avenal Energy and found a potential air quality issue that could delay the Commission review process.

Ammonia Slip Limits

Ammonia is a State-designated toxic air contaminant and a precursor to PM10 and PM2.5 formed in the atmosphere downwind. The applicant's proposal for ammonia slip (unreacted ammonia after the selective catalytic reduction system emitted out of the heat recovery steam generator stack) emissions is higher than the level that Energy Commission staff believes to be achievable. The applicant's proposal is to limit ammonia slip emissions to 10 parts per million by volume dry basis (ppmvd), a level that would result in up to 35 pounds per hour or 236 tons per year of ammonia emissions (AFC Table 6.2-25). Aside from health risk considerations, which will be discussed in the Public Health and Hazardous Materials Management sections of the staff assessment, staff believes that the project should control ammonia emissions to the extent feasible to avoid contributing to violations of the PM10 and PM2.5 standards. Permits issued in recent years for equipment similar to that proposed by Avenal Power indicate that a level of 5 ppmvd should be achievable [e.g., the General Electric Model 7FA with somewhat smaller heat recovery steam generators in the Tesla Power Project (01-AFC-21)]. Guidance provided by the California Air Resources Board in 1999 also recommends a level of 5 ppmvd (AFC Appendix Table 6.2-4.5). Staff has provided data requests to investigate possible design options for achieving 5 ppmvd ammonia slip.

TRANSMISSION SYSTEM ENGINEERING

The California Environmental Quality Act (CEQA) requires the identification and description of the "Direct and indirect significant effects of the project on the environment." The Application for Certification process requires discussion of the "energy resource impacts which may result from the construction or operation of the power plant" (Warren Alquist Act, §25500). For the identification of impacts on the transmission system resources and the indirect or downstream transmission impacts, staff relies on the System Impact Study (SIS).

The study analyzes the effect of the proposed project on the ability of the transmission network to meet reliability standards. When the study determines that the project will cause a violation of reliability standards, the potential mitigation or upgrades required to bring the system into compliance are identified. The mitigation measures often include the construction of downstream transmission facilities. CEQA requires the analysis of any downstream facilities for potential indirect impacts of the proposed project. Without a complete SIS, staff is not able to fulfill the CEQA requirement to identify the direct and indirect effects of the proposed project.

Staff has received a copy of the signed SIS agreement, dated March 26, 2008, between the applicant and the California ISO, and proof of payment. According to the agreement, the SIS should be completed within a maximum 120 days from the agreement signing and

thus is expected by staff at the end of July or early August of 2008. Because staff does not have the SIS there are two potential issues that could delay the staff analysis of Avenal Energy:

1. Until the SIS report is received, staff will be unable to determine whether or not the interconnection and operation of the project will result in reliability criteria violations and staff will be unable to identify any transmission facilities downstream of the first point of interconnection required for the reliable interconnection of the proposed project. If staff does not receive the SIS by early August of 2008, the filing of the Preliminary Staff Assessment will be delayed.

2. If the SIS identifies significant downstream facilities or upgrades (i.e. transmission line reconductoring or major substation expansion) that are required for the reliable interconnection of the project, the applicant will need to provide an environmental analysis of these facilities. The applicant's completion and the Energy Commission staff's consideration of this environmental analysis could significantly delay the AFC process.

SCHEDULING

Although the proposed schedule reflects accomplishing the processing of the Avenal Energy AFC according to the Commission's normal 12-month AFC schedule, delays are possible due to limitations in the availability of staff and its consultants for evaluating the AFC in light of the very high current and expected workload of siting cases before the Energy Commission.

Following is staff's proposed 12-month schedule for key events of the project. Meeting the proposed schedule will depend on the following: the applicant's timely response to staff's data requests; the timing of the San Joaquin Valley Air Pollution Control District's (SJVAPCD) filing of the Determination of Compliance; completion of the California ISO's SIS, determinations by other local, state and federal agencies; and other factors not yet known. The SJVAPCD will be required to provide a Preliminary Determination of Compliance (PDOC) and a Final Determination of Compliance (FDOC). Prior to the publication of the Preliminary Staff Assessment (PSA) staff normally requires a PDOC from the air district, and the FDOC before it publishes the Final Staff Assessment.

STAFF'S PROPOSED SCHEDULE – AVENAL ENERGY (08-AFC-1)

ACTIVITY	DATE
Applicant files Application for Certification (AFC)	2/21/08
Executive Director's recommendation on data adequacy	3/21/08
Commission's determination on data adequacy	4/16/08
Staff files Issue Identification Report	5/08/08
Staff files data requests	est. 5/16/08
Informational Hearing and Site Visit	5/20/08
Applicant provides data responses	6/16/08
Data response and issue resolution workshop	6/25/08
Staff and applicant each file Status Report 1	6/30/08
Local, state and federal agency draft determinations & SDAPCD PDOC	8/14/08
Staff and applicant each file Status Report 2	8/30/08
Staff files Preliminary Staff Assessment (PSA)	9/15/08
PSA workshop	10/06/08
Local, state and federal agency final determinations & SDAPCD FDOC	10/13/08
Staff and applicant each file Status Report 3	10/30/08
Staff files Final Staff Assessment (FSA)	11/12/08
Prehearing Conference*	TBD
Evidentiary hearings*	TBD
Committee files proposed decision*	TBD
Hearing on the proposed decision*	TBD
Committee files revised proposed decision*	TBD
Commission Decision	est. 4/15/09

* The assigned Committee will determine this part of the schedule.